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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,129	11/20/2003	Norival R. Figueira	14715ROUS03U	9076

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EXAMINER	
PATEL, CHANDRAHAS B	

ART UNIT	PAPER NUMBER
2416	

NOTIFICATION DATE	DELIVERY MODE
09/22/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/718,129	FIGUEIRA ET AL.	
	Examiner	Art Unit	
	Chandrahas Patel	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,6-10 and 15-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,4 and 6-9* is/are allowed.

6)☒ Claim(s) *10, 15-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/3/2009 has been entered.

Claim Rejections - 35 USC § 101

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A data structure per se is non-statutory. Merely putting a data structure on a computer readable medium does not make it statutory because a protocol data unit on a computer readable medium is not capable of causing any functional change in the computer, thus does not produce a useful result [See MPEP 2106.01].

Claim Rejections - 35 USC § 103

3. Claims 15, 16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Lasserre (USPN 7,406,518).

Regarding claim 15, Pearce teaches a method of assigning a Media Access Control (MAC) address to an interface on a network, the MAC address having first

through sixth octets **[Col. 14, lines 44-47]**, comprising: setting a local bit in the first octets of the MAC address to indicate to network elements on the network that the MAC address is locally assigned **[Col. 14, lines 44-47, global/local bit of 1st octet identifies if MAC address is locally assigned]**

However, Pearce does not teach assigning a first value to a first field spanning a portion of the MAC address other than the first octet of the MAC address and not all of the second through sixth octets of the MAC address, the first field containing a smaller number of bits than a total number of bits contained in the second through sixth octets of the destination MAC address, said first value containing first output interface information usable by a first switch without reference to information contained in the second through sixth octets outside of the first field to identify a first output interface for transmission of frames containing the first value in the first field of said MAC address.

Lasserre teaches assigning a first value to a first field spanning a portion of the MAC address other than the first octet of the MAC address and not all of the second through sixth octets of the MAC address **[Fig. 6, Port information is assigned that does not span first field and spans part of second through sixth octet of the MAC address]**, the first field containing a smaller number of bits than a total number of bits contained in the second through sixth octets of the destination MAC address **[Fig. 6, port info contains only 8 bits which is less than 40 bits which is the size of second through sixth octet]**, the first value containing first output interface information usable by a first switch without reference to information contained in the second through sixth octets outside of the first field to identify a first output interface for transmission of

frames containing the first value in the first field of said MAC address **[Col 7, lines 54-57, one byte of port information identifies the output port]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have output port information into MAC address so that the output port can be determined **[Col. 7, lines 54-57]**.

Regarding claim 16, Pearce teaches collecting the first output interface information from the first switch **[Col. 20, lines 10-18]**.

Regarding claim 19, Pearce teaches transmitting the MAC address to a network device containing the interface to which the MAC address has been assigned **[Col. 11, lines 29-34]**.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaub et al. (USPN 7,190,695) in view of Sandstrom (USPN 7,254,138).

Regarding claim 10, Schaub teaches a computer readable medium having embodied therein a protocol data unit data structure **[Fig. 1, packets]**, the protocol data unit data structure comprising: a destination MAC address, the destination MAC address being a local MAC address having a plurality of fields **[Col. 7, lines 47-56]**, each of the plurality of fields including a number of bits smaller than a total number of bits of the destination MAC address **[Fig. 6]**; and a payload portion **[Col. 3, lines 12-15, each packet has data portion]**.

However, Schaub does not teach each of the plurality of fields containing a code to be used by a switch on a network independent of the other fields of the destination

MAC Address to identify an output port on the switch without performing a table lookup operation, wherein each of the fields is to be used by a different switch on a network.

Sandstrom teaches each of the plurality of fields containing a code to be used by a switch on a network independent of the other fields of the destination MAC Address to identify an output port on the switch without performing a table lookup operation, wherein each of the fields is to be used by a different switch on a network **[Col. 9, lines 44-51 and Col. 10, lines 12-34, determines proper output port without doing lookup and based on information in packet header]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a switching decision without doing a table look-up to avoid complexity and cost of implementing forwarding tables **[Col. 9, lines 56-67]**.

5. Claims 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Lasserre (USPN 7,406,518) and Ohgane (USPN 6,707,814).

Regarding claim 17, Pearce teaches a second field containing a smaller number of bits than the total number of bits of the destination MAC address **[Fig. 6A, 604, Col. 13, lines 59-64]**.

However, Pearce does not teach assigning a second value to a second field of the MAC address, the second value containing second output interface information usable by a second switch to identify a second output interface for transmission of frames containing said MAC address.

Ohgane teaches assigning a second value to a second field of the MAC address, the second value containing second output interface information usable by a second switch to identify a second output interface for transmission of frames containing said MAC address **[Fig. 2A, 2B, multiple cells each having MAC address for other destinations are included in 20a, Col. 7, lines 15-18]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have multiple fields containing multiple MAC addresses for multiple switches for broadcast service **[Col. 6, lines 64-67 – Col. 7, line 1]**.

Regarding claim 18, Pearce teaches collecting the output interface information from the switch **[Col. 20, lines 10-18]**.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Lasserre (USPN 7,406,518) and Ocepek et al. (USPN 7,124,197).

Regarding claim 20, the references teach a method as discussed in rejection of claim 19.

However, the references do not teach setting the network device in promiscuous mode to cause the network device to receive MAC address.

Ocepek teaches setting the network device in promiscuous mode to cause the network device to receive MAC address **[Col. 9, lines 31-35]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the device in promiscuous mode to receive MAC address

since in this mode all data will be received regardless of device's MAC address **[Col. 9, lines 31-35]**.

7. Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al. (USPN 6,556,574) in view of Lasserre (USPN 7,406,518) and Fijolek et al. (USPN 7,107,326).

Regarding claim 21, the references teach a method as discussed in rejection of claim 15.

However, the references do not teach assigning a second field of the MAC address according to a prefix of the first switch.

Fijolek teaches assigning a second field of the MAC address according to a prefix of the first switch **[Col. 15, lines 14-15]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a prefix to MAC address to restrict access for certain network devices **[Col. 15, lines 12-14]**.

Regarding claim 22, Fijolek teaches the prefix is a portion of all local MAC addresses that are reachable through the first switch **[Col. 15, lines 20-24]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the prefix that indicates all local MAC addresses that are reachable to enable filtering by a system administrator **[Col. 15, lines 20-24]**.

Allowable Subject Matter

8. Claims 1, 4, 6-9 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the references teach all limitations of claim 1 except receiving a frame at the first switch, the frame having an Ethernet Media Access Control (MAC) header including at least one 6 byte MAC address, the 6 byte MAC address including an address portion which is divided into a plurality of sub-fields, at least two of the sub-fields of the address portion being greater than 2 bits in length and shorter than 5 bytes in length and each sub-field having local significance to a separate switch on the communication network such that each separate switch will read only one of the plurality of sub-fields of the MAC address when making a switching decision for the frame.

This taken with other limitations of dependent claims is considered novel and non-obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is (571)270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416

/Chandrahas Patel/
Examiner, Art Unit 2416